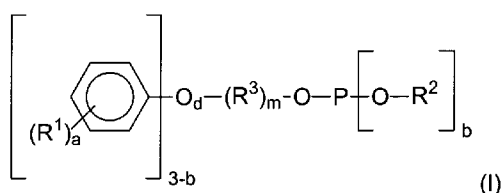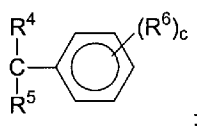# Claims

[c1]   1. A process for reducing phenol emissions from a polymer resin comprising the step of adding at least one phosphite additive of formula (I) to said resin, wherein said formula (I) comprises:

(I)

wherein

R^1	is

R^2	is selected from the group consisting of C_{8-16} alkyls;
R^3	is selected from the group consisting of C_{1-4} alkyls;
m	is an integral value ranging from 0 to 1 inclusive;
a	is an integral value ranging from 1 to 4 inclusive;
b	is an integral value ranging from 1 to 2 inclusive;
R^4 and R^5	are independently selected from the group consisting of C_{1-3} alkyls;
R^6	is selected from the group consisting of C_{8-12} alkyls and C_{8-12} alkoxy compounds;
c	is an integral value ranging from 0 to 4 inclusive; and
d	is equal to m.

[c2]   2. The process of claim 1 wherein

R^2	is $C_{10}H_{21}$;
R^3	is selected from the group consisting of ethyl and propyl alkyls;
m	is 1;
a	is 1;
R^4 and R^5	are methyl;
c	is 0; and
d	is 1.

[c3]   3. The process of claim 2 wherein

R^1 Is
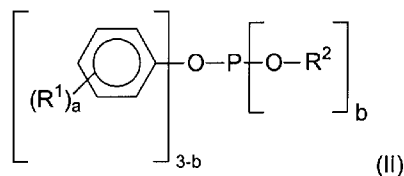
$$CH_3-C(CH_3)-C_6H_5$$
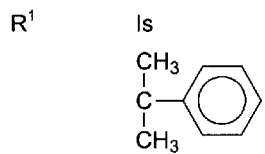
[c4]   4. The process of claim 3 wherein said phosphite is selected from the group consisting of ethoxy-paracumylphenyl diisodecyl phosphite and propoxy-paracumylphenyl diisodecyl phosphite.

[c5]   5. The process of claim 4 wherein said polymer resin is a halogenated resin.
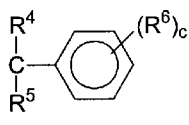
[c6]   6. The process of claim 5 wherein said halogenated resin is polyvinyl chloride.

[c7]   7. A process for reducing phenol emissions from a polymer resin comprising the step of adding at least one phosphite additive of formula (II) to said resin, wherein said formula (II) comprises:

$$\left[(R^1)_a \underset{}{\bigcirc} - O - P \left[O - R^2 \right]_b \right]_{3\text{-}b} \quad \text{(II)}$$

wherein

R¹   is

$$\underset{R^5}{\overset{R^4}{\underset{|}{\overset{|}{C}}}} - \bigcirc (R^6)_c \quad ;$$

R²   is selected from the group consisting of $C_{8\text{-}16}$ alkyls;

a   is an integral value ranging from 1 to 4 inclusive;

b   is an integral value ranging from 1 to 2 inclusive;

R⁴ and R⁵ are independently selected from the group consisting of $C_{1\text{-}3}$ alkyls;

R⁶   is selected from the group consisting of $C_{8\text{-}12}$ alkyls and $C_{8\text{-}12}$ alkoxy compounds; and

c   is an integral value ranging from 0 to 4 inclusive.

[c8]   8. The process of claim 7 wherein

R²   is $C_{10}H_{21}$;

a   is 1;
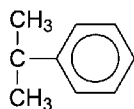
b   is an integral value ranging from 1 to 2 inclusive;

R⁴ and R⁵ are methyl; and

c   is 0.

[c9]   9. The process of claim 8 wherein

R¹   is

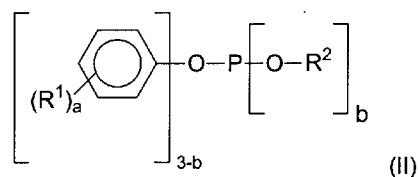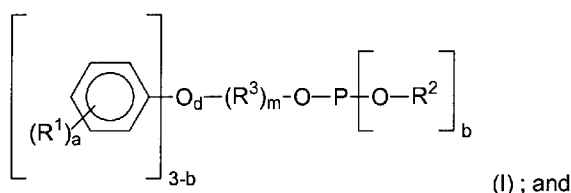$$\underset{CH_3}{\overset{CH_3}{\underset{|}{\overset{|}{C}}}} - \bigcirc \quad .$$

[c10]   10. The process of claim 9 wherein said phosphite is selected from the group consisting of para-cumyl phenyl diisodecyl phosphite and bis para-cumyl isodecyl phosphite.

[c11]   11. The process of claim 10 wherein said polymer resin
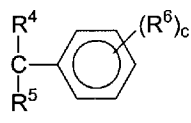
is a halogenated resin.

[c12]   12. The process of claim 11 wherein said halogenated resin is polyvinyl chloride.

[c13]   13. A process for reducing phenol emissions from a polymer resin comprising the step of adding at least one phosphite additive to said resin, said at least one phosphite selected from the group consisting of formulas (I) and (II)

$$\left[\left[(R^1)_a\bigcirc\right]\!\!-O_d-(R^3)_m-O-P\!\!\left[O-R^2\right]_b\right]_{3\text{-}b}$$

(I) ; and

$$\left[\left[(R^1)_a\bigcirc\right]\!\!-O-P\!\!\left[O-R^2\right]_b\right]_{3\text{-}b}$$

(II)

wherein

R^1 is

$$R^4-\underset{R^5}{\overset{R^4}{C}}-\bigcirc(R^6)_c$$;

R^2 is selected from the group consisting of $C_{8\text{-}16}$ alkyls;

R^3 is selected from the group consisting of $C_{1\text{-}4}$ alkyls;
m   is an integral value ranging from 0 to 1 inclusive;
a   is an integral value ranging from 1 to 4 inclusive;
b   is an integral value ranging from 1 to 2 inclusive;
R^4 and R^5 are independently selected from the group consisting of $C_{1\text{-}3}$ alkyls;
R^6 is selected from the group consisting of $C_{8\text{-}12}$ alkyls and $C_{8\text{-}12}$ alkoxy compounds;
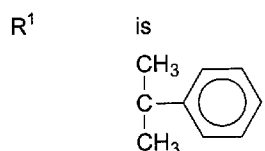c   is an integral value ranging from 0 to 4 inclusive; and
d   is equal to m.

[c14] 14. The process of claim 13 wherein

R^2 is $C_{10}H_{21}$;
R^3 is selected from the group consisting of ethyl and propyl alkyls;
m is 1;
a is 1;
R^4 and R^5 are methyl;
c is 0; and
d is 1.

[c15] 15. The process of claim 14 wherein

R^1 is

[c16] 16. The process of claim 15 wherein said phosphite is selected from the group consisting of ethoxy-paracumylphenyl diisodecyl phosphite, propoxy-paracumylphenyl diisodecyl phosphite, para-cumyl phenyl diisodecyl phosphite and bis para-cumyl isodecyl phosphite.

[c17] 17. The process of claim 16 wherein said polymer resin is a halogenated resin.

[c18] 18. The process of claim 17 wherein said halogenated resin is polyvinyl chloride.

[c19] 19. A process for reducing the emission of phenol from a polymer resin which comprises replacing at least a por-tion of a phosphite additive which emits phenol from said resin with a phosphite composition selected from
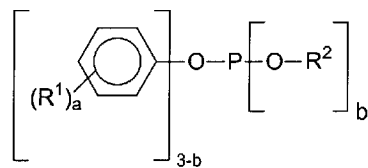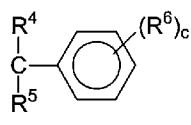
the group consisting of

formula (I)
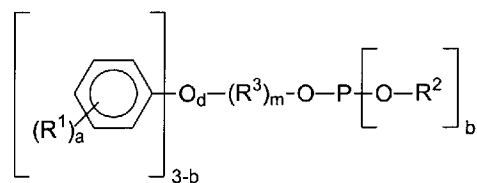
(I) and

formula (II)

(II)

wherein

R^1 is

;

R^2 is selected from the group consisting of C_{8-16} alkyls;

R^3 is selected from the group consisting of C_{1-4} alkyls;

m   is an integral value ranging from 0 to 1 inclusive;

a   is an integral value ranging from 1 to 4 inclusive;

b   is an integral value ranging from 1 to 2 inclusive;

R^4 and R^5 are independently selected from the group consisting of C_{1-3} alkyls;

R^6 is selected from the group consisting of C_{8-12} alkyls and C_{8-12} alkoxy compounds;

c   is an integral value ranging from 0 to 4 inclusive; and

d   is equal to m.

[c20]   **20. The process of claim 19 wherein**

R^2 is $C_{10}H_{21}$;

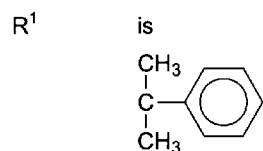R^3 is selected from the group consisting of ethyl and propyl alkyls;

m   is 1;

a   is 1;

R^4 and R^5 are methyl;

c   is 0; and

d   is 1.

[c21]   **21. The process of claim 20 wherein**

R¹   is

$$\underset{CH_3}{\overset{CH_3}{C}}\!\!-\!\!\bigcirc$$

.

[c22] 22. The process of claim 21 wherein said phosphite is selected from the group consisting of ethoxy-paracumylphenyl diisodecyl phosphite, propoxy-paracumylphenyl diisodecyl phosphite, para-cumyl phenyl diisodecyl phosphite and bis para-cumyl isodecyl phosphite.

[c23] 23. The process of claim 22 wherein said phosphite is selected from the group consisting of ethoxy-paracumylphenyl diisodecyl phosphite and propoxy-paracumylphenyl diisodecyl phosphite.

[c24] 24. The process of claim 22 wherein said phosphite is selected from the group consisting of para-cumyl phenyl diisodecyl phosphite and bis para-cumyl isodecyl phosphite.

[c25] 25. The process of claim 22 wherein said polymer resin is a halogenated resin.

[c26] 26. The process of claim 25 wherein said halogenated resin is polyvinyl chloride.